



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

NOTES ON THE GEOLOGY OF THE ANTELOPE HILLS.

By R. S. SHEERWIN, University of Oklahoma, Norman, Okla.

Read (by title) before the Academy, at Topeka, January 2, 1903.

THE Antelope Hills form the most conspicuous landmark of western Day county, in Oklahoma. They are outlying remnants of an old plateau, probably of Tertiary age, situated on the south side of the South Canadian river, on the inside of a large bend. The distance of the river from the hills varies from about two miles on the west to ten on the north and four or five on the northeast. In general outline, the drainage of the area around the hills and inside the bend of the river resembles an open fan.

The following section was taken on the largest of the buttes:

4. Gentle covered slope at top.....	25 feet.
3. Gray sandstone	25 "
2. Sand or saccharoidal sandstone.....	30 "
1. Long covered slope to the river.....	<u>460</u> "
Total.....	540 feet.

On top of the hills and near them were found many pebbles of flint, limestone, and several igneous rocks, including lava. The cementing material of the sandstone is calcium carbonate. The amount of it varies greatly, and it is sometimes found in concretion-like forms which contain comparatively little sand. These concretions weather out very unevenly, and give the edge of the sandstone the appearance of being covered with stalactites. Some of them are larger than a man's arm, while others are small. The soft saccharoidal sandstone below the cap-rock differs from it only in having less of the cementing material. The little that it does contain is irregularly distributed. Even in the sandy slopes and in the soil lower down, there are small concretions of carbonate of lime. A few scattered buffalo bones were found on and near the hills, and some fragments of larger fossil bones were found on the southwest slope of the largest butte.

Locally the two hills farthest east are known as the Twin Hills, because they are so nearly alike, and about three miles from the other four, which are called the Antelope Hills. None of them have any timber except a few crooked cedars around the edges. The area of the top of the largest butte is probably less than thirty acres, and the total area of the tops of the group would hardly exceed sixty acres. There is a small spring of good water at the base of the largest one, and a larger one about a quarter of a mile from the Twin hills.

The cap-rock of the Antelope Hills is at about the same level as the

top of the sand-hills which cover a large part of northern Day county, and differs only in having the cementing material. The fact that the Antelope hills can be seen for a long distance depends more on the height of the broad, gently' sloping base than on the height or size of the steeper portion at the top. South and southwest of the buttes there are lower hills, rising with gentle, rounded slopes, and covered with a sandy soil. The whole appearance of the surrounding country seems to indicate that there was a local hardening in a Tertiary sand plain by the deposition of calcium carbonate in it. Later the South Canadian river cut through this plateau, making a bend to the north around the hardened part. Erosion went on rapidly in the loose sand near the river, but was checked by the hardened layer. Finally, the hardened portion was cut into several parts and left only in the tops of a few buttes which it still protects.